Calc I

Test Review

Int, u-du sub, PVA

Integrate the following:

1.  2. 

3.  4. 

5.  6. 

7.  8. 

9.  10. 

11. A water balloon is thrown straight up from the top of a building. After 1 second, the velocity of the balloon is -14.5 ft/sec. After 3 seconds, the balloon is 58.5 feet off the ground.

a) What are the velocity and acceleration functions?

b) What is the initial velocity and initial position of the balloon?

c)When does the balloon reach its maximum height?

d) When does it hit the ground and what is its impact velocity?

e) What is the total distance and the displacement of the balloon?

12. An object moves along the x-axis. It’s acceleration function is given by . The object has a -2 ft/sec at one second. It has a position of 34 feet at 3 seconds.

a) What are the velocity and position functions?

b) What is the initial velocity and initial position?

c) When is the object at rest and what is its position at those times?

d) What are the acceleration, the velocity and the position at 2.5 seconds?

e) What is the total distance and the displacement of the object in the first 4 seconds?